



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,444	05/15/2006	Manfred A. A. Lupke	SWH 12 221-1US	7844

7590 10/07/2008
Dennison Associates
133 Richmond Street West
Suite 301
Toronto, ON M5H2L7
CANADA

EXAMINER

LEYSON, JOSEPH S

ART UNIT	PAPER NUMBER
----------	--------------

1791

MAIL DATE	DELIVERY MODE
-----------	---------------

10/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,444	Applicant(s) LUPKE ET AL.	
	Examiner JOSEPH LEYSON	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-14 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lupke et al. (US 4,510,013) in view of Chan et al. (US 4,789,327).

Lupke et al. (US 4,510,013) teaches a pipe molding system for producing plastic pipe, said system including a plurality of moving first mold block sections 16 and second moving mold block sections 16, the first mold block sections closing with the second mold block sections to form a moving mold tunnel (i.e., figs. 1-2c), means 23 for feeding molten plastic to the first and second mold blocks sections to form the plastic pipe and a

Art Unit: 1791

cooling plug 70. However, Lupke et al. (US 4,510,013) do not disclose the cooling plug as recited by the instant claims.

Chan et al. (US 4,789,327) teaches a cooling plug 51, 52 for setting the plastic pipe in a moving mold tunnel, said cooling plug being divided into a first stage and a second stage, said first stage including a separate cooling circuit and a temperature control arrangement that cooperate to remove sufficient heat from the plastic pipe to partially set the plastic pipe without excessive cooling thereof; said second stage including a separate cooling circuit and a temperature control arrangement and continuing to remove heat from the pipe to further set the plastic pipe; said first stage being separately, controlled to be responsive to changing conditions of said first stage to maintain the first stage within a first temperature range which cools the pipe without damage from excessive cooling and reduces the temperature of the plastic pipe (i.e., it is well within an artisan of ordinary skill to vary the heat exchange to achieve a desired cooling effect with the pipe dependent upon the processing conditions); and wherein said cooling plug is divided into two separate cooling plug sections corresponding to said first stage and said second stage, the plug sections are independently controlled to vary the heat exchange of the different plug sections (i.e., figs. 1 and 4; col. 1, lines 42-54; col. 2, lines 39-51; col. 4, lines 22-38).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the cooling plug of Lupke et al. (US 4,510,013) with the cooling plug of Chan et al. (US 4,789,327) because such a modification would provide a plug that can vary heat exchange at different plug sections and/or because Chan et al.

Art Unit: 1791

(US 4,789,327: col. 4, lines 39-44) discloses that the different section cooling plug can be used in the apparatus of Lupke et al. (US 4,510,013).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lupke et al. (US 4,510,013) in view of Chan et al. (US 4,789,327) as applied to claims 1, 2 and 4 above, and further in view of Jarvenkyla (US 4,865,797).

Jarvenkyla (US 4,865,797) discloses a cooling plug 9 having a groove 17 which acts as a thermal barrier between a warm section and a cold section of the cooling plug (col. 3, lines 49-53).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the cooling plug with grooves between sections of different temperatures because such a modification would provide thermal barriers between sections of different temperature to prevent heat transfer between the sections, as disclosed by Jarvenkyla (US 4,865,797).

5. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lupke et al. (US 4,510,013) in view of Chan et al. (US 4,789,327) as applied to claims 1, 2 and 4 above, and further in view of Wieder et al. (US 6,312,628).

Wieder et al. (US 6,312,628) disclose means for providing circulating cooling water to cooling channels 18 of an element to be cooled, the means including a temperature sensor 64 for monitoring the temperature of the element, a variable control valve 14 for adjusting the flow of the cooling water circulated through the cooling channels 18 in accordance with the temperature sensor 64, a reservoir 32 of cooling water to be circulated through the cooling channels 18, the reservoir 32 including a

Art Unit: 1791

temperature sensor 40 and a chilling arrangement 36 for maintaining the temperature of the cooling water within a predetermined range, and a pump 42 and control arrangement 64, 22 for circulating sufficient cooling water through the cooling channels 18 to cool the element as desired (i.e., cols. 9-13; figs. 1, 3 and 5).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the system with the means for providing circulating cooling water of Wieder et al. (US 6,312,628) because such a modification would supply cooling water to the cooling plug which means are known in the cooling water supply art, as disclosed by Wieder et al. (US 6,312,628), and because Chan et al. (US 4,789,327: i.e., col. 2, lines 39-51) disclose that an independent cooling water supply should be connected to the different sections of the cooling water plug to vary the intensity of heat exchange of the different sections.

Allowable Subject Matter

6. Claims 9-14 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or reasonably suggest the pipe molding system, as disclosed by instant claims 9-14, particularly the first wall portion which travels over and is in contact with said cooling plug and the second wall portion which travels over and is spaced outwardly away from said cooling plug, the first wall portion transferring heat directly to said cooling plug, said system including the first temperature control to prevent excessive plug cooling as the first wall portion travels over the cooling plug, said system including the second temperature control which operates to replace

Art Unit: 1791

the first temperature control in preventing the excessive plug cooling as the second wall portion of the pipe wall travels over the cooling plug.

Response to Arguments

8. Applicant's arguments with respect to the instant claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that the Chan reference has no reference to a first stage including a cooling circuit and a temperature control arrangement that cooperate to remove sufficient heat from the plastic pipe to partially set the plastic pipe without excessive cooling thereof; that the Chan reference has no suggestion of a temperature control arrangement associated with the first cooling stage to adjust the heat that is removed from the plastic pipe such that excessive cooling of the pipe is avoided; and that, as noted in the present application, changes in the shape of the pipe that is being extruded varies the ability of the cooling plug to remove heat and if the cooling fluid is maintained when a coupling passes over the first section, the cooling plug will excessively cool and when the double-walled pipe subsequently passes over this section of the cooling plug, excessive heat is removed and damage to the leading portion of the double-walled pipe occurs. The examiner respectfully disagrees. Instant claims 1-8 do NOT require any control means responsive to changes in the shape of the pipe that is being extruded, as argued by applicant. Thus, arguments relative thereto are NOT commensurate in scope with instant claims 1-8, and are moot. The cooling circuit and temperature control arrangement of the first stage of Chan inherently cooperates to remove sufficient heat from the plastic pipe at the first stage to partially

Art Unit: 1791

set the plastic pipe without excessive cooling thereof. If the first stage fully cooled (excessive cooling) the plastic pipe to fully set the plastic pipe, then the second stage (or subsequent stages) would no longer be required to further cool the pipe. As disclosed by Chan (i.e., figs. 1 and 4; col. 1, lines 42-54; col. 2, lines 39-51; col. 4, lines 22-38), the intensity of heat exchange is varied to the various sections or stages of the cooling plug. Therefore, the upstream sections partially cool and partially set the pipe relative to the downstream sections, without fully cooling (excessive cooling) and fully setting the pipe.

Applicant argues that neither the primary reference nor the secondary reference recognizes the problems associated with the manufacture of pipe having different configurations as the pipe is being extruded; and that, similarly, these references have not recognized the particular solution and the control arrangement specifically set out in the claims that is responsive to changes in the pipe configuration. However, instant claims 1-8 do not require such control arrangements responsive to pipe having different configurations. Thus, such arguments are NOT commensurate in scope with instant claims 1-8, and are moot.

Applicant argues that, as noted in the present application, the particular pipe molding system problems associated with excessive cooling are avoided and in particular the problems associated with the hardening and even cracking of at least the first or second corrugations in the main body portion of the pipe following a coupling are avoided (see page 8 lines 9 through 20); and that the system is more forgiving with respect to the product being produced as well as any changes which occur during the

Art Unit: 1791

production process (page 18 lines 20 to 22). However, such arguments are NOT commensurate in scope with instant claims 1-8, and are moot. Instant claims 1-8 are not limited to control arrangements which solve such problems. Instant claims 1-8 broadly encompass other control arrangements, such as those in the prior art rejections.

Applicant argues that the prior art references have not recognized the underlying problems associated with excessive cooling of the pipe due to changes in the shape, or the requirement to significantly alter the cooling capabilities of the system in accordance with changes in the pipe configuration. However, such arguments are NOT commensurate in scope with instant claims 1-8, and are moot. Instant claims 1-8 are not limited to control arrangements which solve such problems. Instant claims 1-8 broadly encompass other control arrangements, such as those in the prior art rejections.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 1791

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH LEYSON whose telephone number is (571)272-5061. The examiner can normally be reached on M-F 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gupta Yogendra can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert B. Davis/
Primary Examiner, Art Unit 1791
9/30/08

/J. L./
Examiner, Art Unit 1791